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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,717	03/13/2002	Masato Koshimizu	1232-4837	1930
27123	7590	11/02/2005	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			LEE, CHEUKFAN	
		ART UNIT		PAPER NUMBER
				2627

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/099,717	KOSHIMIZU ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Cheukfan Lee	2622 2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 March 2002.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 7 and 9-11 is/are allowed.
- 6) Claim(s) 12-14, 19, 20, 24 and 25 is/are rejected.
- 7) Claim(s) 1-6, 8, 15-18, and 21-23 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 13 March 2002 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/13/2002</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____.                                   |

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1. Claims 1-25 are pending. Claims 1, 7, 12, and 20 are independent.

2. Claims 1-6, 8, 12-19 are objected to because of the following:

In claim 1, line 14 of the claim, -- a – should be inserted before “reading device”.

In claim 2, the last line of the claim, “said reading means” lacks antecedent basis.

In claim 4, lines 2-3 and 5-6, it is unclear whether “a first light guide pattern” and “a second light guide pattern” are referring to “a first light guide pattern” and “a second light guide pattern” of lines 8-9 and 11 of claim 1, respectively. If they are, -- the – or – said – should be used instead of “a” in front of “first” and “second”.

Claims 3, 5 and 6 are objected to as being dependent upon objected claim 1.

In claim 8, line 2-3 and 5-6, the same problem of claim 4 occurs. See discussion for claim 4.

In claim 12, line 12 of the claim, -- a – should be inserted before “reading device”.

In claim 13, the last line of the claim, “said reading means” lacks antecedent basis.

Claims 14-19 are objected to as being dependent upon objected claim 12 or claim 13.

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 12-14, 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujinawa (U.S. Patent No. 6,323,967).

Regarding claim 12, Fujinawa discloses an image reading apparatus comprising an illumination device for emitting visible light onto an original in reading the original image and for emitting invisible light onto the original in detecting dust and scratches on the original (col. 5, lines 1-11). The illumination device (Fig. 6C) includes a first light source (21) and a second light source (21), the first and second light sources (21) disposed at two ends of a light guide plate (22) (a plate in circular shape), respectively. In one arrangement, the first light source has a red LED(s), a green LED(s), and a blue LED(s) for emitting visible light mounted in one array (the rear array) of the two arrays of LEDs, and infrared LEDs (IR LEDs for emitting invisible light) mounted in another array (the front array) of the two arrays of LEDs (col. 8, lines 31-33, Fig. 2 for only the array arrangement, col. 6, lines 11 and 37, Figs. 6C for the light source – light guide – light source arrangement, col. 9, lines 48-50, 57-59, 20-26, and 37-39). The second light source (21) has the same arrangement as the first light source. The light guide plate

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(22) guides light beams emitted by the first and second light sources through a surface (22a, shown in Fig. 6A) to illuminate the original. A line sensor (18 in Fig. 5) converts light from the original illuminated by light which is emitted by the first light source (21) or the second light source (21) and guided by the light guide plate (22) into an image signal (col. 10, lines 8-18).

The claim defines the first light source to be "a first light source that emits light in a visible region", and the second light source to be "a second light source constituted by aligning on a light-emitting element substrate a plurality of light-emitting elements for emitting light in an invisible region". Though the first light source (21) and the second light source (21) (Fig. 6C) of Fujinawa both include an array of IR LEDs and an array of RGB LEDs as discussed above, because the first light source (21) is a light source that emits light in a visible region, the first light source meets the claimed first light source, and because the second light source (21) is constituted by aligning on a light-emitting element substrate (board 2 in Fig. 2, an aluminum substrate, col. 6, lines 11-15) a plurality of light-emitting elements (the array of IR LEDs) for emitting light in an invisible region, the second light source (21) meets the claimed second light source.

Claim 20 claims an illumination apparatus comprising a first light source and a second light source that are the same as the first and second sources of claim 12, and a light guide plate that is similar to the light guide plate of claim 12, except for "end faces" (in the limitation of the light guide) of claim 12 at which the first and second light sources are arranged and from which incident light beams are guided through the/a surface to

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substantially uniformly emit light. In the discussion above for claim 12, the first and second light sources (21 in Figs. 1, 2, 6C) are arranged at end faces of the light guide (22), respectively. As shown from Figs. 1, 2, and 6C, incident light beams are guided by the light guide (22) from the end faces through the surface (22a shown in Fig. 6A) of the light guide (22) to substantially uniformly emit light (col. 5, lines 7-10). Please also see discussion for claim 12, except for the image reading device of claim 12.

Regarding claim 13, in Fujinawa, defect information present on an optical path extending from the light guide plate (22) to the image sensor (18) is read on the basis of the image signal obtained when the light from the original illuminated by the IR light which is emitted by the second light source having the array of IR LEDs discussed for claim 12 above and guided by the light guide plate (22) enters the reading device (23, 24, etc.) (Figs. 5 and 6C).

Regarding claim 14, in Fujinawa, the detect information includes information generated when dust or a scratch present on the original itself intercepts the light (IR light) which is emitted by the array of IR LEDs of the second light source discussed above for claim 12. Please refer to the discussion for claim 12.

Regarding claim 19, the second light source (21) discussed for claim 12 above emits light in an infrared region (col. 8, lines 31-33).

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For claim 24, see discussion for claim 19, for reciting the limitation of claim 19.

Regarding claim 25, the apparatus of Fujinawa is an image reading apparatus (Fig. 5) as discussed above for claim 12. See Fig. 5, light guide (22), original (26), solid-state image sensing element (18), and imaging optical system (24).

5. Claims 15-18 and 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 1-6 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

7. Claims 7, 9, 10, and 11 are allowed.

8. Claim 8 would be allowable if rewritten to overcome the objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is an examiner's statement of reasons for allowance:

Claim 1 would be allowable and claim 7 is allowable over the prior art of record because the prior art does not teach a light guide plate, as claimed in claims 1 and 7,

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that has first light guide pattern for guiding light in the visible region and emitted by the a first light source to an entire light-emitting surface and a second light guide pattern for guiding light in the invisible region and emitted by the second light source to the entire light-emitting surface, the first and second light sources being arranged at end faces (of the light guide plate).

Claims 2-6 and 8-11 depending on claims 1 or 7 would be/are allowable for the reasons given for claims 1 or 7.

Claim 15 would be allowable because Fujinawa (U.S. Patent No. 6,323,967) does not disclose a plurality of light-emitting apertures formed in the light-emitting element substrate (2) of the second light source (21) in correspondence with the light-emitting elements (LEDs), the light-emitting elements being so arranged as to bury light-emitting portions of the light-emitting elements in the substrate with a pattern surface facing a side opposite to a light guide surface side, and the light-emitting element substrate and an end face of the light guide being arranged in tight contact with each other, as claimed in claim 15.

Claim 16 requires that a light guide surface side of the light-emitting element substrate except for light-emitting apertures reflects light. Fujinawa (6,323,967) does not disclose or suggest such feature. In Fujinawa, the only surface of the substrate (board 2 in Fig. 2) that can be interpreted to be a light-guide surface side of the light-emitting element is the right end surface of the substrate (board 2) as viewed in Fig. 2. However, that right end surface does not have the LEDs mounted thereon and does

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not have LED apertures. The LED mounted surface of the substrate (board 2), which is an aluminum (reflective) substrate (col. 6, lines 11-13), is facing away from the light guide (22) (Figs. 2 and 6C).

Claim 17 requires that the light-emitting element substrate is covered with a reflecting member so as to be arranged in tight contact with the light guide. Fujinawa (6,323,967) does not disclose such because the reflecting surface of the substrate (aluminum substrate 2, col. 6, lines 11-13) is not arranged in tight contact with the light guide (22). The reflective substrate (board 2 in Figs. 1, 2 and 6C) is not in contact with the light guide (22) because of portion (1b) (Figs. 1 and 6C).

Claim 18 depending on claim 17 would be allowable for the reason given for claim 17.

Claims 21-23, reciting the limitations of claims 16-18, respectively, would be allowable for the reasons given for claims 16-18, respectively.

Please note that Nogami et al. (U.S. Patent No. 6,796,502) and Koshimizu (U.S. Patent No. 6,660,987), cited below, each having one common inventor with the inventive entity of the present application, both disclose subject matter somehow similar to the claimed invention, including a first light source that emits light in a visible region and a second light source constituted by aligning on a substrate a plurality of light-emitting elements for emitting light in an invisible region for detecting dust or scratches on a film original, and a light guide plate, the light guide plate of Nogami et al. having the first and second light guide patterns as claimed in the present application. However,

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neither reference is prior art to the present application. Further, there is no double patenting of either the same type or the obviousness type between any of these references and the present claims.

Please also note that the Takayama et al. (U.S. Publication No. US 2002/0168116 A1) discloses the same subject matter of claims 12 and 20 (and their dependent claims). However, Takayama et al. was published on November 14, 2002, which is later than the effective filing date of the present application. There is no double patent rejection of either the same type or the obviousness type.

Please note also that, though some of the references cited below disclose a first and a second light sources for emitting light in the visible region and light in the invisible region, respectively, the light in the invisible region emitted onto a film original to enable detection of dust/scratches on the film original, they do not disclose the combination of the first and second light sources and the light guide plate as claimed in claims 1, 7, 12, and 20.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Nogami et al. (U.S. Patent No. 6,796,502) discloses an image reading apparatus including a first light source that emits light in a visible region and a second light source constituted by aligning on a substrate a plurality of light-emitting elements for emitting light in an invisible region, and a light guide plate

Koshimizu (U.S. Patent No. 6,660,987) discloses an image reading apparatus having a first light source that emits light in a visible region and a second light source constituted by aligning on a substrate a plurality of light-emitting elements for emitting light in an invisible region, and a light guide plate

Fujinawa (U.S. Patent No. 6,532,085) discloses an illumination device for an image reading apparatus, having an infrared light source, a visible light source and a light guide that enable detection of dust and scratches on an original.

Konagawa (U.S. Patent No. 6,474,836) discloses an original reading device having a light source section (80) (Fig. 3), the light source section in one embodiment comprises four substrates each having infrared (IR) LEDs arranged in a row (in one embodiment) and RGB LEDs arranged in rows (in the one embodiment) (col. 18, lines 9-43, col. 15, lines 16-60), and a light guide (86,88 in Fig. 3).

Konno (U.S. Patent No. 6,806,981) discloses an image reading apparatus having a light source section (66) which includes IR LEDs and RGB LEDs (Figs. 1, 3, 4A, 4B, 5A, and 5B).

Konogawa et al. (U.S. Patent No. 6,791,721) discloses an image reading apparatus for image reading and detecting dust and scratch on the film, having IR LEDs and RGB LEDs (Figs. 3-11).

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Potucek et al. (U.S. Patent No. 6,437,358) discloses an apparatus and methods for capturing detect data employing two light sources, LS1 and LS2.

Arita et al. (U.S. Patent No. 6,493,061) discloses an image reading apparatus having two light sources, one for emitting light in a visible region for image reading, the other for emitting light in an invisible region to enable detection of defect of an original.

Lin (U.S. Patent No. 6,734,997) discloses a method of detecting defects on a transparent film in a scanner (Fig. 3).

Yang et al (U.S. Patent No. 6,765,701) discloses a film scanner with uniformized infrared light by initializing a cold cathode fluorescent lamp.

Stavely et al. (U.S. Patent No. 6,969,372) discloses a film scanner with dust and scratch correction by use of dark-field illumination, having an IR LED (304) and visible light source (302).

Takayama et al. (U.S. Publication No. US 2002/0168116 A1) discloses an image processing apparatus for correcting defects of a read image (Figs. 1 and 2) (same subject matter disclosed).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor (currently unknown) can be reached on (currently unknown). The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee  
October 20, 2005

A handwritten signature in black ink, appearing to read "Cheukfan Lee".